Critical Access Hospital Feasibility Study

Report to Board of Directors of CLSD & RCMS

by Community Healthcare Working Group

May 21. 2010

Submitted by:
The Community Healthcare Working Group

Redwood Coast Medical Services
Mike Goran – Board co-Chair
Alex Long - Board co-Chair
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Introduction

In February, 2009, the on-call provider, After Hours Urgent Care service provided by Redwood Coast Medical Services (RCMS) under contract to Coast Life Support District (CLSD) was terminated because it was both financially unsustainable and adversely impacting RCMS' ability to attract and retain providers. Subsequently, a working group of RCMS and CLSD Board members and management was formed to address how to improve health care services in our community.

This group, the Community Healthcare Working Group (CHWG), sought to determine what medical, urgent, and emergency services our remote geographic community could benefit from. We have a dedicated medical clinic, paramedic-staffed, ground ambulance operation and emergency helicopter service; but essentially we are reliant on distant ERs and hospitals for serious injuries, emergencies or conditions requiring inpatient care. Travel times even in good weather and with helicopter transport far exceed recommended limits for optimum care. The population not only has to travel for ER services but also for many basic services, such as preventive screening for breast and colon cancer, obstetrical and gynecologic services and many other specialty services. In addition, there is no local rehabilitation or skilled nursing facility in our community, forcing patients and their families to stay off the coast following any major surgery.

The Working Group learned that many isolated rural communities provide these types of services with a Critical Access Hospital (CAH). Most of these CAH's were existing hospitals that converted to a CAH designation so that they could benefit from Federal funding designed to help remote rural communities improve their health services. During our investigations, the Working Group interviewed several consulting firms and selected Stroudwater Associates. They proposed conducting an economic feasibility study for a new CAH in Gualala, which the CLSD and RCMS Boards subsequently authorized in late 2009, sharing equally in the cost of this study.

This report contains the following information:

- Summary of the Stroudwater Report,
- CHWG Conclusions and Recommendations,
- Appendix A: The Stroudwater report,
- Appendix B: Financial Sensitivity Studies.

Summary of Stroudwater Report

The Stroudwater Report is attached as Appendix A. The results of this study are based on a model Stroudwater developed while working with many CAH's that are rebuilding their facilities. It uses the Thomson-Reuters health care service database to estimate the frequency that various medical procedures are expected for the socioeconomic population found in our service area. The analysis requires a set of assumptions to estimate annual revenue, expenses, profit/loss, and the cost for building and servicing the debt of a new facility.

Stroudwater proposes that a 38,000 square-foot facility be constructed to provide primary, urgent and emergency care. It would provide six beds that could be used for hospitalization or skilled nursing ("swing-beds"). It would also have an Emergency Department staffed 24 hours per day and seven days per week. Additional services would include imaging (CT, mammography, bone density, ultrasound, MRI), laboratory and selected outpatient procedures (colonoscopy, gastroscopy, IV medications). See Appendix A for more details.

The Stroudwater Report concludes that a six-bed Critical Access Hospital is potentially feasible under a set of critical assumptions that the Working Group believes requires further scrutiny and substantiation as discussed in the next section.

CHWG Conclusions & Recommendations

Assumptions

The Stroudwater analysis and conclusions are based on a set of assumptions about which the Community Healthcare Working Group had some serious concerns. The following list is not meant to be comprehensive, but rather to give a sense of the potential issues.

- **Utilization –** this combines a number of key assumptions:
  - Population of service area – for the baseline a value of 8,000 was assumed; however we lack an accurate population count of our area. By some estimates we have a significantly lower population, by some higher.
  - What percentage of our population will use the services of the CAH – Stroudwater selected 12 inpatient clinical service categories and based upon the frequency of need by our population (as estimated by the Thomson-Reuters database for our area) they assumed on the average 34% of our population would elect to have the service performed at the CAH.
- **Revenue and Expenses**–utilization clearly impacts revenue but so also do some other assumptions listed below. Expenses are impacted by the staffing size estimated by the Stroudwater model as well as other assumptions noted below:
  - Payer Mix – the proportion of patients that are insured by Medicare, Medi-Cal, third party insurance or those who are self-pay.
  - Payer Rates – a CAH will be reimbursed by Medicare for 101% of the expenses prorated to Medicare. Can favorable rates be negotiated for the other classes of payers?
  - Expenses – salaries are a very significant portion of all expenses. Will these salaries be adequate to attract and retain qualified personnel in our community?
  - CLSD/RCMS/CAH – how much cost savings can be achieved through close cooperation of all three organizations?
- **Quality** – studies show that CAH's may have better quality metrics than larger hospitals especially with respect to infection rates (but infection rates are only one measure of hospital quality). However, quality will depend upon the skill of the personnel and whether other regional medical organizations can be engaged through tele-medicine or other exchange programs.
- **Approvals** – what are the regulatory obstacles to building a new hospital and getting it licensed as a CAH in California? Although brand new CAH's have been built elsewhere, none has been built from scratch as CAH in California. In

addition, we would need to deal with the California Coastal Commission for permitting, and with Gualala Water Company for water.

- **Financing Costs** – as noted, Stroudwater has proposed the construction of a new 38,000 square foot facility. There are many assumptions here:
  - It was estimated that construction would cost $600/sq-ft (an estimate for California), with a total cost of $37million,
  - It was also estimated that there would be $2M in start-up costs unrelated to construction.
  - These two expenses would be covered by: a) $5M of local fund raising, and b) issuing $34M in bonds insured by a California agency. The bonds were assumed to be 40 years in duration and have a 6% interest rate.
- **Community Support** – even under the best of assumptions, the Stroudwater Report projects an operational loss. This is not unusual for other California CAH's and it is generally covered by local taxes. Will our community be willing to support a new tax, and even more important, will they use a local CAH?

Conclusions

As noted before, the Stroudwater Report concluded that a Critical Access Hospital was feasible in our community but at an annual loss:

- 1st year loss for a facility with Primary Care Clinic = -$0.94M
- 1st year loss for a facility without Primary Care Clinic = -$0.52M

However, based upon sensitivity studies (please see Appendix A) and our general feeling of uncertainties, the Working Group felt the potential losses could be substantially higher. Clearly, there is a point at which a CAH is no longer feasible for our community.

A survey of the 29 existing CAH's in California finds that they are profitable after consideration of other forms of income (such as taxes) and in fact do somewhat better on average than the state's hospitals. Similarly, financial reviews of the California CAH's also suggest that the debt-service coverage ratio (income+ depreciation + interest / loan payments) must be greater than 3.0, thus providing another criterion for viability.

Recommendations

During the course of the Stroudwater study the Working Group came to realize how little we knew at the start. And now, we appreciate that there are many questions that still need to be answered for our specific situation. But, we have taken satisfaction that as a team the CLSD and RCMS members have worked well together to build a better understanding of the challenge and the potential questions we need to answer to better

understand whether a Critical Access Hospital is a desirable and feasible asset for our community.

It is the consensus of the Working Group that additional research is required to make a Go/No-Go decision on a Gualala CAH. Specific topics that we feel need to be addressed include:

- Gather additional experience data from existing CAH's: a) in California (generally the smaller ones which might be similar to our situation), b) in Nevada (where there are new CAH's), and c) in Washington state (where a new CAH is now being developed in conjunction with a larger hospital).
- Gather specific California information pertaining to CAH certification, financing and reimbursement rates.
- Quantify economic benefits of consolidating primary, emergency and hospital care services in our community and assess how well this model fits into a long-range health strategy.

The Working Group anticipates that this next analysis stage would conclude in October of 2010 with requirements for very modest levels of additional funds (mostly for travel). At the end of this phase, the Working Group believes that it would be possible to better estimate the potential benefits and costs of a CAH. If these benefits and costs are felt to be viable, then we would recommend embarking upon a third phase in which community outreach and support would be addressed.

Appendix A: Stroudwater Report

Final Report for:

Redwood Coast Medical Services

Coast Life Support District

New Critical Access Hospital Economic Feasibility Analysis for Gualala, California

May 11, 2010

Submitted by:

STROUDWATER ASSOCIATES

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Executive Summary

The Coast Life Support District (CLSD) and Redwood Coast Medical Services (RCMS) requested that Stroudwater Associates develop an economic feasibility study for a new Critical Access Hospital (CAH) to be located in Gualala, California. Gualala residents would benefit from a local CAH due to 70-mile distance and two-hour travel time to the nearest tertiary care hospital over winding and steep secondary roads – reportedly the longest ambulance transfer in California. There are no regulatory preclusions to a new CAH in Gualala and the service area population is adequate to support a CAH.

Stroudwater Associates built a Gualala CAH economic feasibility model using conservative revenue, expense, and facility cost assumptions. Revenue assumptions include basic CAH services, an 8,000 population, conservative market shares, and typical area gross to net revenue ratios. Expense assumptions include locally-validated salaries, conservative full time equivalent (FTE) staffing, and typical financing costs. California healthcare facility building costs are by far the highest in the nation resulting in a total cost of $33 million to $36 million for a new 6-bed CAH.

Using conservative baseline assumptions, the model projects a first year net revenue loss of -$519,447. Subsequent year projected losses are less (e.g., -$345,931 for Year 5) due to service volume growth.

A new CAH in Gualala is *potentially* feasible assuming: 1) effective marketing of hospital services and resolute attention to positive community reputation to ensure strong and increasing market share, 2) rapid development of profitable new service lines attractive to patients with third party insurance coverage, 3) aggressive negotiations with Medi-Cal and third party payers for favorable reimbursement rates, 4) additional revenue through grants, fund raising, and/or taxation if needed, 5) cost-savings through CLSD, RCMS, and CAH consolidation, and 6) development of a local health care system manifest by modern facility and equipment, high clinical quality, customer focus, and physician/hospital alignment.

Acknowledgment and Receipt

By receipt of this document titled *New Critical Access Hospital Economic Feasibility Analysis for Gualala, California* ("Report"), Coast Life Support District and Redwood Coast Medical Services ("Clients") hereby acknowledge that (i) the Report contains assumptions and financial projections based on the state of facts as of the date of the Report, (ii) certain assumptions contained in the Report are based upon data provided by Clients to Stroudwater Associates and Clients accept full responsibility for those assumptions provided by Clients, (iii) Clients have reviewed all assumptions used in the Report, understand the assumptions contained in the Report and agree that the assumptions are appropriate given the limited information available on the population and healthcare history of the community, (iv) Clients have reviewed all financial projections made in the Report, understand the projections contained in the Report and agree that the projections are appropriate; and (v) Clients have had the opportunity to ask questions regarding the assumptions used in the Report and the financial projections made using the assumptions, and all such questions have been answered to the Clients' satisfaction. For purposes of this Acknowledgment, the term "assumptions" includes, but is not limited to, volume, revenue, staffing, and expense assumptions.

Clients further represent that they understand the selection of assumptions used in the Report requires an exercise of judgment and is subject to uncertainties such as changes in legislation or economic or other circumstances. Clients acknowledge that there usually will be differences between the projected and actual results because events and circumstances frequently do not occur as expected, and those differences may be material.

Clients agree that the Report is intended solely for the information and use of Clients, for the specific purpose stated in the proposal, engagement letter, or authorization form, and is not intended to be and should not be used by anyone other than Clients.

Situation

Redwood Coast Medical Services (RCMS), based in Gualala, California, is a nonprofit primary care clinic operating as a Federally Qualified Health Center (FQHC) and serving the residents of coastal Southern Mendocino and Northern Sonoma Counties. The RCMS service area is estimated to be 450 square miles and include up to 12,000 individuals. The clinic delivers 24,000 clinic visits per year (medical, mental health, and dental) and cared for approximately 5,800 unique patients last year.

The Coast Life Support District (CLSD) provides Emergency Medical Services (EMS) to the area including advanced life support and ambulance transport. Most emergency transports from the District go to Santa Rosa emergency departments – four hours round trip and reportedly the longest emergency transport time in California. In addition, inclement weather and road closures often delay ground transport or preclude helicopter transport.

RCMS and CLSD have been discussing how best to improve and/or expand not only emergency services for the area, but non-emergency medical care as well. RCMS offered 24/7 physician availability at the clinic, but the service was financially unsustainable. The service was therefore discontinued and replaced with a nurse triage telephone service. Currently, a parcel tax supports efforts to expand clinical services and to include after hours urgent care. After several telephone conversations and one face-to-face meeting, RCMS and CLSD leadership asked if Stroudwater Associates would prepare a consultation proposal (Project) to design service-expansion options and develop feasibility analyses that improve District health care services. RCMS and CLSD leadership reviewed the original consultation proposal and decided that the Project should be more focused than "service-expansion options." Stroudwater Associates agrees. Therefore, after several e-mail communications, local discussions, and proposal revisions, RCMS and CLSD leadership asked that the consultation primarily focus on critical access hospital (CAH) feasibility.

Project Goal

Provide a high-level economic feasibility analysis for a new Critical Access Hospital to be located in Gualala, California.

Project

Overview

The Project will provide the leaders of Coast Life Support District and Redwood Coast Medical Services a high-level CAH economic feasibility analysis.

The major areas of Project emphasis include the following activities:

- Assessment of the legal and regulatory environment for CAH development.
- Detailed service area and market analysis to determine clinical service demand and market share projections.
- On-site interviews with 20 key stakeholders, physicians, RCMS board leaders, and CSLD board leaders.
- Joint presentation to RCMS and CLSD boards.
- Development of a unique Gualala CAH economic feasibility model based on key assumptions from data/information gathering noted above.
- CAH financial feasibility assessment that includes sensitivity analysis of key assumptions, high-level revenue and expense projections, and new facility cost estimates.
- Summary report and recommendations suitable for community presentation.

Notable Interview Quotes

- "If I never had to drive to Santa Rosa for medical care again, it would be too soon."
- "I'd put my life in the hands of CLSD emergency personnel."
- "We often deliver patients (via ambulance) to Santa Rosa in worse shape than when we picked them up."
- "RCMS is the most important institution in the Gualala area."
- "24/7 urgent care is sorely missed."
- "Many people live here by choice. That means they can leave by choice."
- "Medford, Oregon is becoming 'Sea Ranch North.' People are moving out of the area due to inaccessible emergency medical care."
- "Thank God for Diane Agee; she takes charge to serve our community."

Critical Access Hospitals

National CAH Experience

Critical Access Hospital (CAH) is a special federal designation for small rural hospitals created by the Balanced Budget Act of 1997. Features of CAHs include:

- CAHs represent ~ 1,300 (or ~ 25%) of all U.S. acute care hospitals.
- A CAH must be 35 miles (15 miles over secondary roads) from the nearest hospital.
- CAHs are limited to 25 inpatient beds and a 4-day average length of stay.
- There is no limit on the types of services a CAH may offer.
- CAHs receive cost-based reimbursement (101% of cost) for Medicare services.
- CAHs may offer Swing Bed (skilled nursing care) services.

The current status of "new" CAHs in the U.S. include:

- Three new CAHs operate in Nevada where no hospital had previously existed: Mesa View Regional Hospital (Mesquite), Desert View Regional Medical Center (Pahrump), and Carson Valley Medical Center (Gardnerville).
- Several hospitals in Oregon, Tennessee, Virginia, West Virginia, and Wyoming have closed and then reopened several years later. These hospitals now operate as CAHs. The process for licensure and certification would not be substantially different from a hospital opening where no hospital had operated previously. However, legislation states that if an original hospital closed after November 29, 1989, a new hospital in the same location may convert directly to a CAH.[1]
- A new CAH is under development for Friday Harbor, Washington where no hospital had previously existed. The island community currently has a clinic and nursing home. A local community coalition led initial planning, but has now signed an agreement with PeaceHealth for CAH planning, management, and financial support. PeaceHealth is an integrated health care system that currently operates three CAHs, offers an established electronic medical record, and utilizes a physician employment model.

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[1] Legislation enacted as part of the Balanced Budget Act (BBA) of 1997 authorized states to establish State Medicare Rural Hospital Flexibility Programs (Flex Program), under which certain facilities participating in Medicare can become Critical Access Hospitals (CAH): … Hospitals that ceased operation during the 10 year period from November 29, 1989 through November 29, 1999; … (Source: http://www.cms.hhs.gov/).

California CAHs

Twenty eight CAHs operate in California. The greatest density of California CAHs is in Northern California.[2]

- Banner Lassen Medical Center – Susanville, CA (25 beds)
- Biggs-Gridley Memorial Hospital – Gridley, CA (24 beds)
- Catalina Island Medical Center, Avalon, CA (12 beds)
- Colorado River Medical Center – Needles, CA (25 beds)
- Eastern Plumas District Hospital – Portola, CA (10 beds)
- Fairchild Medical Center – Yreka, CA (25 beds)
- Frank R. Howard Memorial Hospital – Willits, CA (25 beds)
- Glenn Medical Center – Willows, CA (15 beds)
- Healdsburg District Hospital – Healdsburg, CA (25 beds)
- Jerold Phelps Community Hospital – Garberville, CA (17 beds)
- John C. Fremont Hospital – Mariposa, CA (18 beds)
- Kern Valley Hospital District – Lake Isabella, CA (25 beds)
- Mammoth Hospital – Mammoth Lakes, CA (15 beds)
- Mayers Memorial Hospital – Fall River Mills, CA (22 beds)
- Mendocino Coast District Hospital – Fort Bragg, CA (25 beds)
- Mercy Medical Center, Mt. Shasta – Mt. Shasta, CA (25 beds)
- Mountain Community Med. Center – Lake Arrowhead, CA (25 beds)
- Northern Inyo Hospital, CA – Bishop, CA (25 beds)
- Plumas District Hospital – Quincy, CA (24 beds)
- Redwood Memorial Hospital – Fortuna, CA (25 beds)
- Seneca Healthcare District – Chester, CA (10 beds)
- Southern Inyo Healthcare District – Lone Pine, CA (4 beds)
- St. Helena Hospital Clearlake – Clearlake, CA (25 beds)
- Surprise Valley Community Hospital – Cedarville, CA (4 beds)
- Sutter Lakeside Hospital – Lakeport, CA (25 beds)
- Tahoe Forest Hospital District – Truckee, CA (25 beds)
- Tehachapi Valley Healthcare District – Tehachapi, CA (24 beds)
- Trinity Hospital – Weaverville, CA (25 beds)

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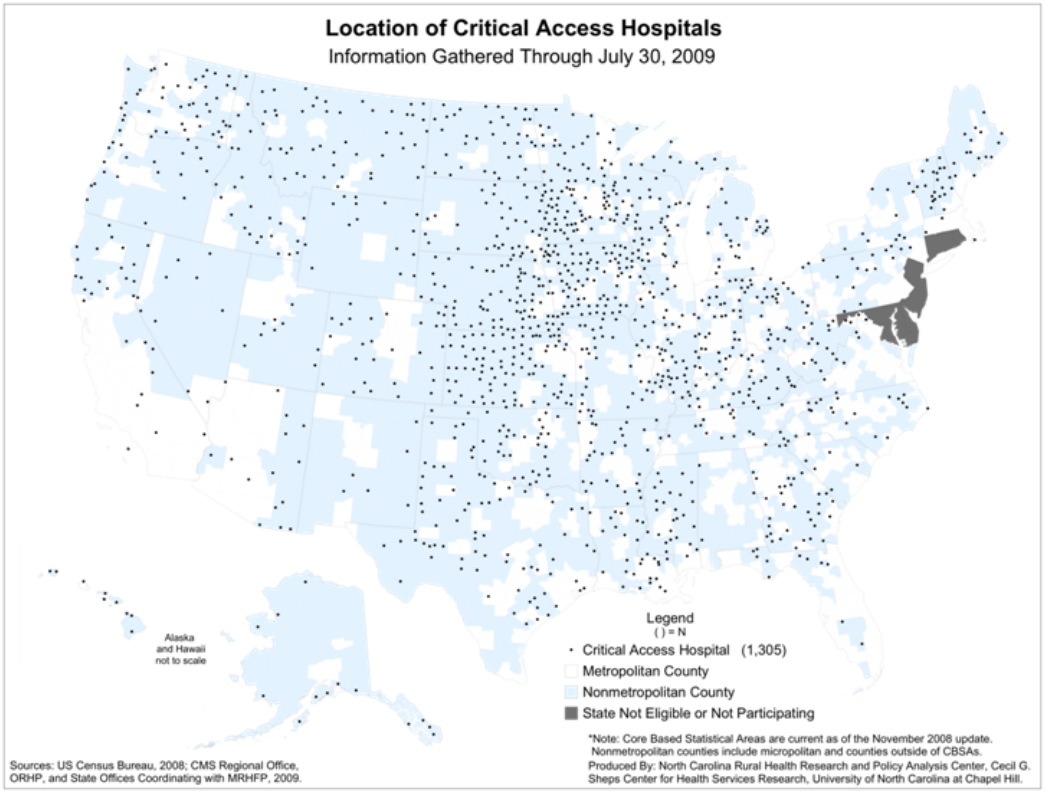
[2] OSHPD February 2008 and American Hospital Directory February 2010

National and California Critical Access Hospital Locations



Gualala Service Area

Health Status

County Health Rankings
Mobilizing Action Toward Community Health

Published on *County Health Rankings* (http://www.countyhealthrankings.org)

Home > California > California

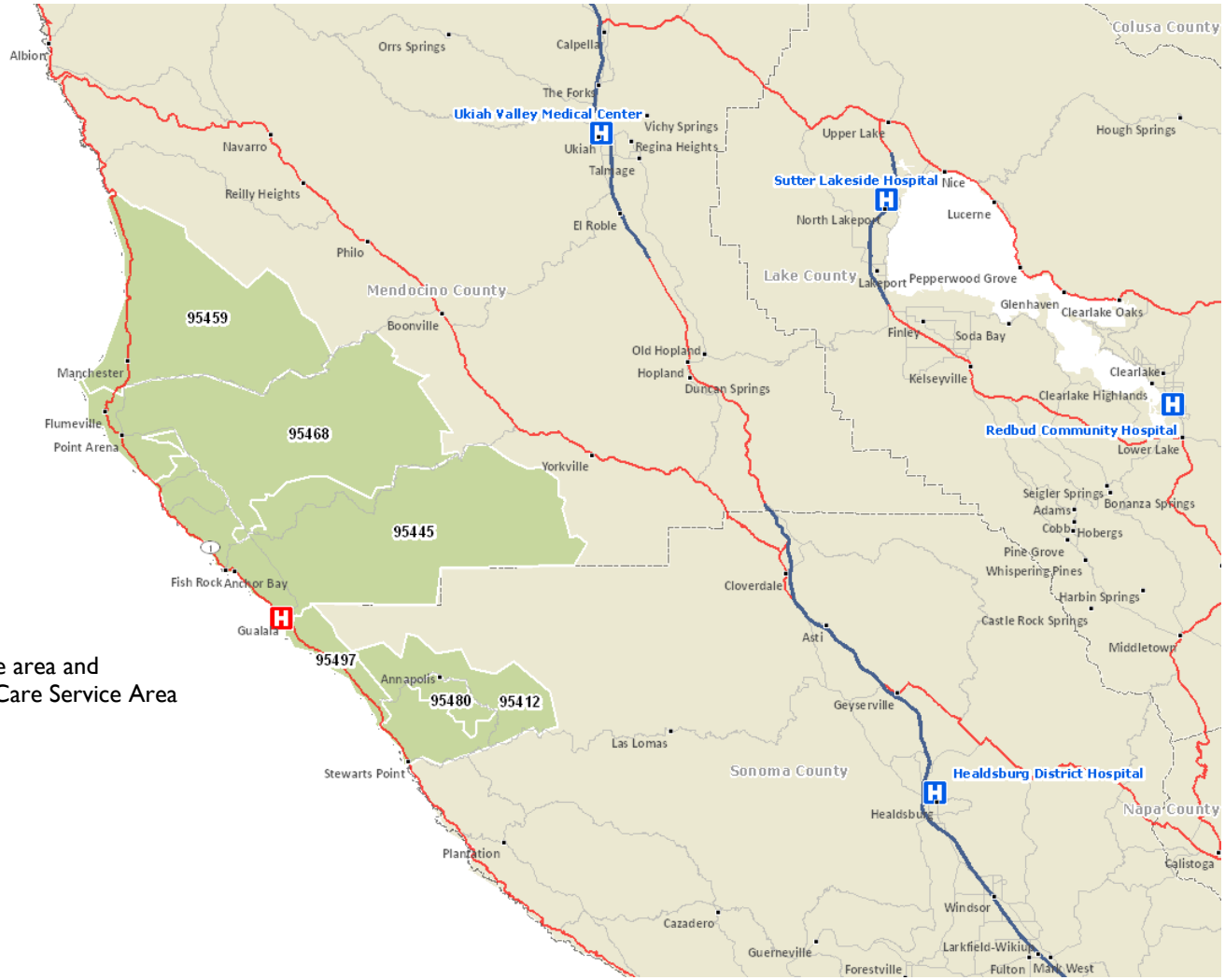
Snapshot 2010: Mendocino

	Mendocino County	Error Margin	Target Value*	CA Value	Rank (of 56)
Health Outcomes					33
Mortality					49
Premature death	8,704	7,987-9,421	5,199	6,196	
Morbidity					10
Poor or fair health	13%	9-18%	11%	18%	
Poor physical health days	3.6	2.4-4.8	2.7	3.6	
Poor mental health days	3.4	2.2-4.6	2.8	3.6	
Low birthweight	6%	5-6%	5%	7%	
Health Factors					25
Health Behaviors					17
Adult smoking			10%	15%	
Adult obesity	20%	15-27%	19%	23%	
Binge drinking			13%	15%	
Motor vehicle crash death rate	18	15-22	8	12	
Chlamydia rate	233		110	389	
Teen birth rate	42	39-44	22	41	
Clinical Care					21
Uninsured adults	20%	17-23%	15%	21%	
Primary care provider rate	157		157	116	
Preventable hospital stays	48	45-51	45	62	
Diabetic screening	80%	77-83%	84%	76%	
Hospice use	13%	10-17%	36%	28%	
Social & Economic Factors					35
High school graduation	73%		90%	69%	
College degrees	24%	22-26%	38%	29%	
Unemployment	7%	7-7%	5%	7%	
Children in poverty	22%	18-26%	11%	17%	
Inadequate social support			15%	26%	
Single-parent households	10%	8-12%	7%	10%	
Violent crime rate	573		263	527	
Physical Environment					14
Air pollution-particulate matter days	0		0	13	
Air pollution-ozone days	0		0	37	
Access to healthy foods	50%		62%	46%	
Liquor store density	0.9		0.3	0.9	

* 90th percentile, i.e., only 10% are better
Note: Blank values reflect unreliable or missing data

Source URL: http://www.countyhealthrankings.org/california/mendocino

Client-defined and Dartmouth-defined Service Area ZIP Codes



Client-defined service area and Dartmouth Primary Care Service Area

Gualala, California

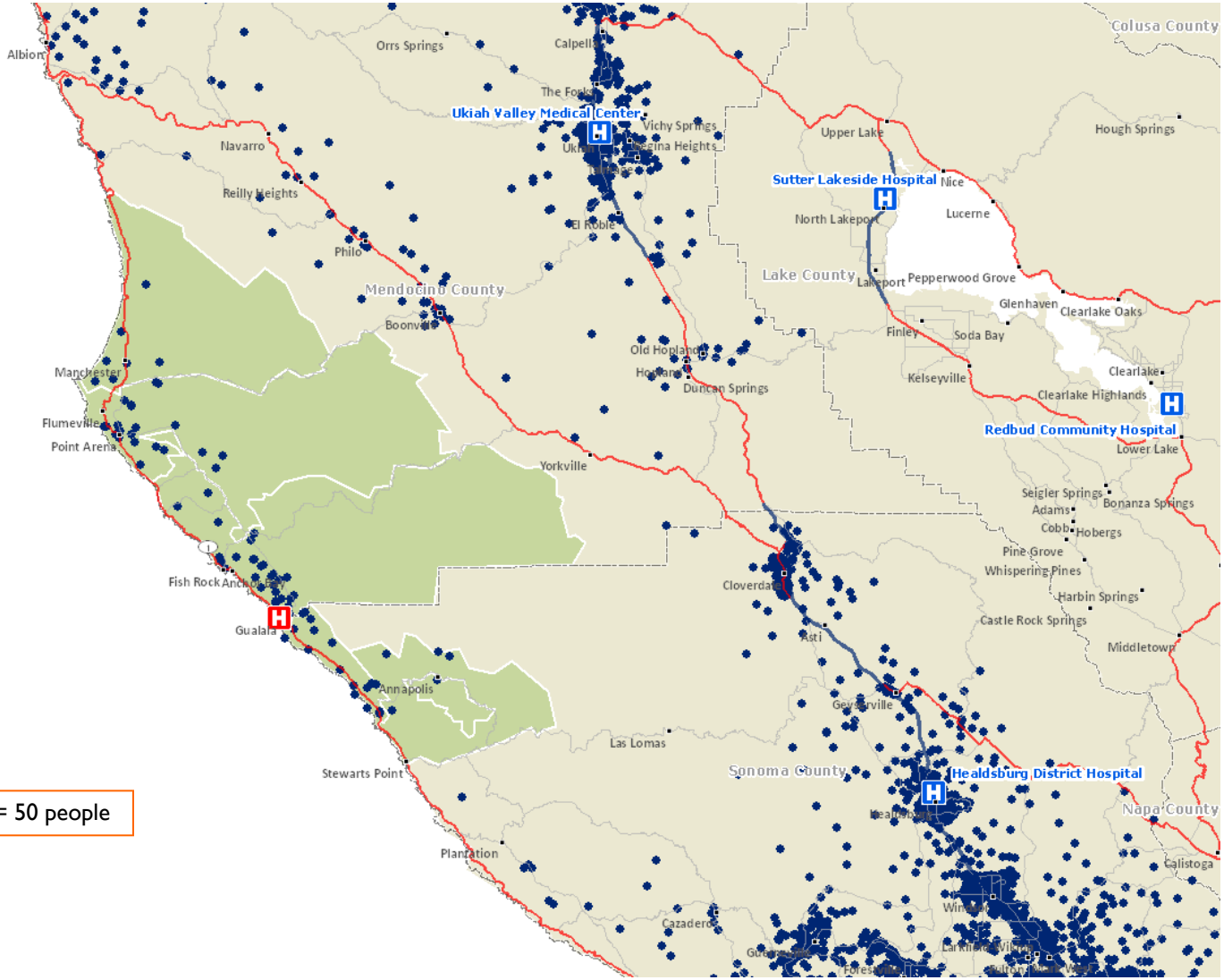
Population Demographics (U.S. Census)

Primary Service Area (PSA)	2007 Population Estimate 0-17	18-44	45-64	65+	Total	Percent of PSA
95445 Gualala	353	527	783	411	2,074	37%
95497 The Sea Ranch	149	212	525	296	1,182	21%
95468 Point Arena	340	458	443	171	1,412	25%
95459 Manchester	96	147	186	105	534	9%
95480 Stewarts Point	7	12	32	18	69	1%
95412 Annapolis	48	69	169	94	380	7%
Primary Service Area	*993*	*1,425*	*2,138*	*1,095*	*5,651*	*100%*
Grand Total	**993**	**1,425**	**2,138**	**1,095**	**5,651**	
Service Area	18%	25%	38%	19%	100%	
California	26%	39%	24%	11%	100%	
United States	28%	35%	25%	13%	100%	

Primary Service Area (PSA)	2007 Estimate	2012 Projection	2017 Projection	2007-2017 % Change	2007-2017 Ab. Change	Percent Growth Share of TSA
95445 Gualala	2,074	2,165	2,272	10%	198	37%
95497 The Sea Ranch	1,182	1,260	1,356	15%	174	32%
95468 Point Arena	1,412	1,442	1,480	5%	68	13%
95459 Manchester	534	547	564	6%	30	6%
95480 Stewarts Point	69	76	85	23%	16	3%
95412 Annapolis	380	405	436	15%	56	10%
Subtotal	*5,651*	*5,895*	*6,193*	*10%*	*542*	*100%*
Total Service Area (TSA)	**5,651**	**5,895**	**6,193**	**10%**	**542**	**100%**
California	37	39	42	14%		
United States	296	310	335	13%		

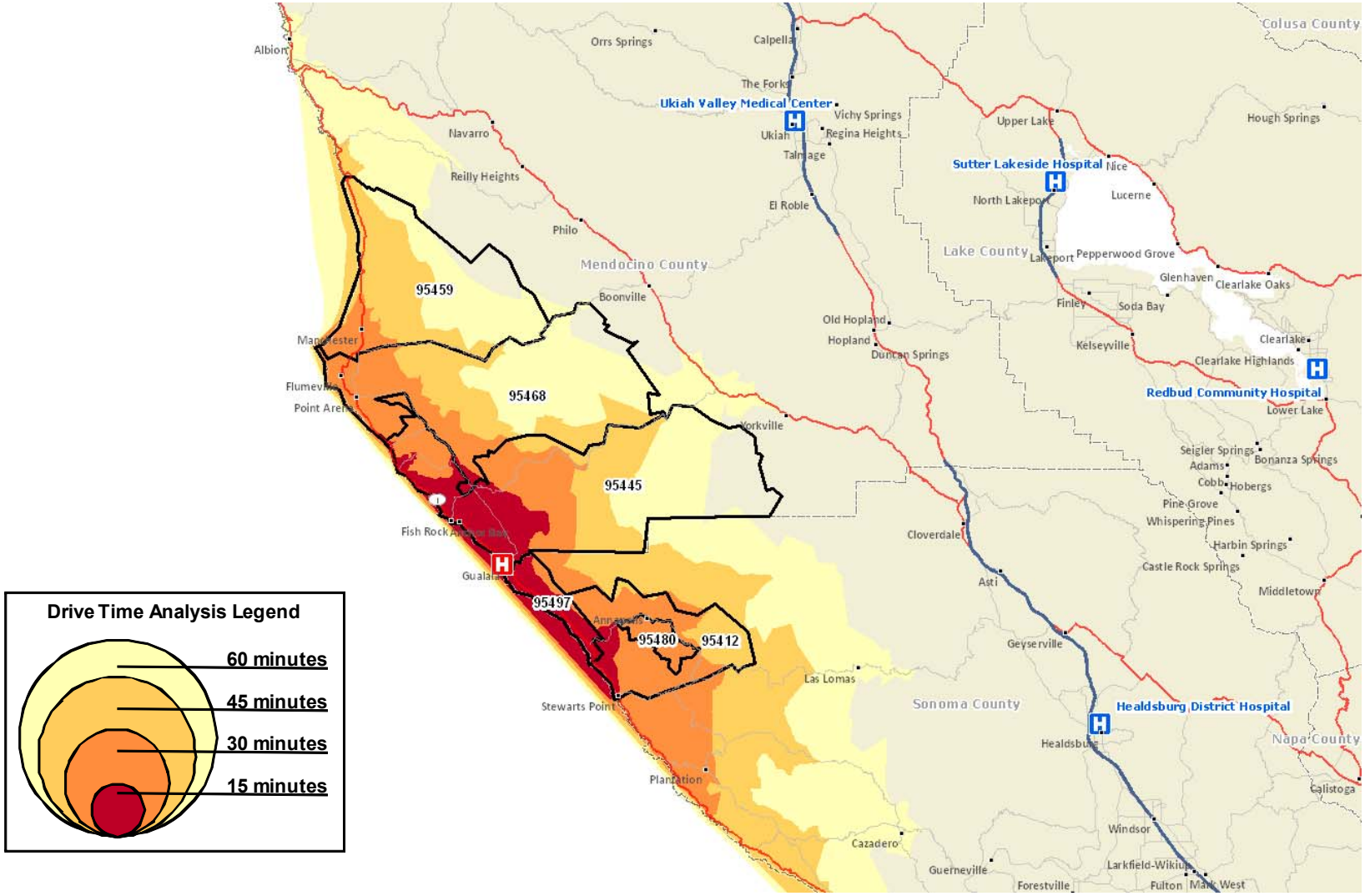
Service Area	2007 Estimate	2012 Projection	2017 Projection	2007-2017 % Change	2007-2017 Absolute	Share of Growth
0-17	993	959	926	-7%	-67	0%
18-44	1,425	1,435	1,447	2%	22	4%
45-64	2,138	2,178	2,221	4%	83	14%
65+	1,095	1,323	1,599	46%	504	83%
Total	**5,651**	**5,895**	**6,193**	**10%**	**542**	**100%**

Population Density



Each dot = 50 people

Drive Times


Drive Time Analysis Legend
60 minutes
45 minutes
30 minutes
15 minutes
95459
95468
95445
95497
95480
95412
Albion
Orrs Springs
Calpella
The Forks
Ukiah Valley Medical Center
Ukiah
Vichy Springs
Regina Heights
Talmage
Navarro
Reilly Heights
El Roble
Philo
Mendocino County
Boonville
Old Hopland
Hopland
Duncan Springs
Yorkville
Fish Rock
Cloverdale
Asti
Geyserville
Las Lomas
Stewarts Point
Plantation
Sonoma County
Healdsburg District Hospital
Healdsburg
Napa County
Calistoga
Windsor
Cazadero
Guerneville
Forestville
Larkfield-Wikiup
Fulton
Mark West
Colusa County
Upper Lake
Hough Springs
Sutter Lakeside Hospital
Nice
Lucerne
North Lakeport
Lake County
Lakeport
Pepperwood Grove
Glenhaven
Clearlake Oaks
Finley
Soda Bay
Kelseyville
Clearlake
Clearlake Highlands
Redbud Community Hospital
Lower Lake
Seigler Springs
Bonanza Springs
Adams
Cobb
Hobergs
Pine Grove
Whispering Pines
Harbin Springs
Castle Rock Springs
Middletown

Gualala Service Area Conclusions

Health Status

Health status data are available by county. Mendocino County is likely to be more representative of the Gualala service area than Sonoma County. **Mendocino County ranks 33 out of 56 California counties in overall health status.** It is unclear how the addition of a local hospital might impact overall health outcomes. However, many rural hospitals actively engage in community health improvement.

Geography

The Gualala, California area represents a beautiful stretch of northern California coastline and contiguous wooded hills with population clusters along the coast. The area's geographic and drive time midpoint is located approximately at the community of Gualala. Thus, **Gualala would be the most appropriate location for a small rural hospital.** Gualala is approximately a three-hour drive north of San Francisco. Drive time to the nearest tertiary care facility (Santa Rosa) is nearly two hours by ambulance – reportedly the longest routine ambulance transfer in California. The road to Santa Rosa is tortuous, steep, and potentially uncomfortable, especially for patients in the back of an ambulance. Air evacuation by helicopter is available, but air ambulance transport represents real risks to patient and crew. Furthermore, inclement weather often makes medical transport by land or air difficult and at times impossible. Area hospitals include three tertiary care hospitals in Santa Rosa (one is a Kaiser Permanente facility and generally available only to HMO members) and a critical access hospital located 60 miles north in Fort Bragg. Most patients are transported for hospital care to Santa Rosa, although a significant number of patients are transported to Fort Bragg.

Service Area

Defining the healthcare facility service area is essential to determining the population base, which in turn, drives hospital care utilization projections. Several approaches may define a service area, including local healthcare provider opinion, geographic proximity (radius or drive time), Dartmouth Atlas of Health Care data, and consultant experience. In this case, Diane Agee's (RCMS CEO) opinion and the Dartmouth-generated Primary Care Service Area (PCSA) both suggest **service area ZIP codes of 95459 (Manchester), 95468 (Point Arena), 95445 (Gualala), 95497 (The Sea Ranch), 95480 (Stewarts Point), and 95412 (Annapolis).** Interviews considered areas to the north, such as Elk, but this area represents very few people and would more likely be served by Fort Bragg. Areas to the south were also considered, such as Timber Cove. People residing in the Timber Cove area might use services in

Gualala, but Santa Rosa (and even Healdsburg) would still be preferred unless Gualala offered unique services or EMS crews expressed strong preference for Gualala.

The Sonoma/Mendocino county line divides the six service area ZIP codes – three in Sonoma County and three in Mendocino County. The service area population represents a small fraction of either county's population and the county seats are distant from Gualala. Thus, county support for a local hospital may be problematic.

Population

Several interviewees suggested a service area population of 10,000 - 13,000. These estimates are *double* the U.S. Census Bureau estimate of 5,651 (extrapolated from 2000 measurements to 2007). However, a conservative estimate of 8,000 is validated most powerfully in two findings. First, RCMS cared for 5,800 unique patients last year. Traditionally, patient "panel size" is calculated based on the number of unique patients over two years. Although this number includes dental and mental health patients in addition to primary care patients, 5,800 is therefore likely conservative. Second, the Point Arena Library has a household mailing list of 4,500 unique addresses extending from Elk to Stewarts Point. Both Mendocino and Sonoma counties have slightly greater than 2.5 people per household, thus suggesting a service area population of 11,250. To be conservative, **the economic feasibility model will use 8,000 persons as service area population.**

As with most rural areas, the service area population is more aged than national and California averages. **The service area population is expected to grow 10% over the next decade with almost all growth in the 65+ age cohort**. The elderly tend to utilize more health care.

Population Density and Drive Times

As expected, the service area population is clustered generally along the coast. Nonetheless, travel to medical care in Santa Rosa along the coastal road (Hwy 1) is nearly two hours in duration, over a winding and hilly road, and occasionally impassable due to inclement weather and other obstacles. There are no hospitals within one hour drive time from Gualala, yet several clinical conditions (e.g., stroke, heart attack, and trauma) require definitive care within one hour for optimal clinical outcome. **The significant distance to hospital care is a strong rationale for developing local hospital services**.

Community Economic Impact

A well-developed local healthcare system is a powerful economic engine for a rural community. Health care is a growth industry providing generally well-compensated and tax-paying jobs. People accessing local health care services are more likely to make other local purchases, utilize local services, and not export that purchasing power to distant communities. Although not specifically analyzed as part of this report, new dollars flowing to a rural community as a result of the local healthcare system (economic multiplier effect) has been well-established by research. A multiplier of at least 1.3 might be expected. Thus, for every $1.00 spent on health care in Gualala, $1.33 would return to the area. See Rural Health Works (www.ruralhealthworks.org) for details. **Therefore, if financially viable, a CAH located in Gualala would likely be of significant economic benefit to the service area.**

Revenue Model

Service Lines

The model assumes that the new CAH provides the following clinical services:

- Inpatient care
- Swing bed care
- Emergency care
- Imaging
  - Plain films
  - CT
  - Mammography
  - Bone density testing
  - Ultrasound (part-time)
  - MRI (part-time)
- Laboratory
  - Basic hematology and chemistry
  - Cardiac markers
  - Urinalysis
  - ABGs
  - O-negative blood

Outpatient procedures

- Colonoscopy
- Gastroscopy
- IV medications

- Rehabilitation
  - Physical therapy
  - Workers compensation
- Cardio-respiratory
  - Nebulizer treatment
  - Spirometry
  - Pulmonary function test
  - EKG
  - Graded exercise test
- Outreach specialties
  - Cardiology
  - Orthopedics
  - General surgery

Service Area Utilization

Total market shares (by inpatient diagnostic categories and outpatient procedures) unique to the six service area ZIP codes and a baseline population of 8,000 are derived from Thomson-Reuters data. The Thomson-Reuters database, the most robust healthcare service volume projection database available, projects five-year market share growths based on demographic trends and technology/utilization trends.

Market Share and Payer Mix

Market shares for approximately 30 inpatient diagnostic categories and approximately 600 outpatient procedures are derived initially from consultant experience. Typical primary care and specialist office services are not included. Market share values applied include:

- High predicted utilization = 80% market share
- Intermediate predicted utilization = 50% market share
- Low predicted utilization = 20% market share
- No predicted utilization = 0% market share

The market share projections are then adjusted based on market shares and payer mixes typical of area hospitals (primarily Mendocino Coast District Hospital, Frank R. Howard Memorial Hospital, and Ukiah Valley Medical Center). Market share projections are further adjusted using Thomson-Reuters generated market share data. Finally, due to the Gualala service area demographics, the Medicare (65+ age cohort) market share is weighed slightly more and the Medi-Cal (indigent cohort) market share is weighted slightly less than typical area hospital market shares.

The feasibility model projects a 34% inpatient market share. Typical CAH service area inpatient market share varies between 30% and 60%.

Net Revenue to Gross Revenue Ratio

Net revenue to gross revenue ratio (or collection rate) is a key factor for hospital service pricing and revenue calculations. The feasibility model requires assumptions regarding projected revenue by payer type. Typically, hospitals set prices at 300% of Medicare reimbursement rates. The price charged is gross revenue. Each payer then reimburses the hospital (net revenue) at a rate that is a percentage of the charges. Based on analysis of several similar California hospitals, the model uses the following revenue/charge ratios:

- Medicare 40%[2]
- Medi-Cal 40%
- County indigent 20%
- Third party 60%
- All other 40%

[2] Medicare revenue is actually calculated and reimbursed at cost plus 1%

Expense Model

Staffing

Staffing and associated costs are the primary expense for a rural hospital. Salaries were determined using a national salary database, area hospital cost reports, and local knowledge. Benefits, taxes, and other associated expenses were applied using standard percentages. Full time equivalents (FTEs) were determined per department and based on the service menu described in the Revenue Model section. Nursing FTEs were applied to care for a low volume rural Emergency Department and up to six inpatients and/or Swing Bed patients. Appropriate administration, business office, and support FTEs were also applied. Please see Appendix for staffing, salary, and FTE details.

Cost to Medicare Revenue Link

Critical Access Hospital expenses (costs) are directly related to Medicare revenue. Medicare reimburses CAHs at 101% of cost only for services provided to Medicare beneficiaries. Thus, Medicare revenue is approximately equal to cost for that proportion of services that are Medicare. There is no loss, but only 1% profit, on Medicare business. Cost and revenue are linked via cost reports. The model uses report templates to determine department-based costs, the proportion that are related to Medicare, and then calculate Medicare revenue.

Facility Costs

Facility costs and financing costs are detailed in the Facility Model section. Interest and depreciation are "allowable costs." Thus, the percentage of interest and depreciation cost attributable to Medicare services will be reimbursed by Medicare at cost plus 1%. Depreciation is a non-cash cost, but is reimbursable (in part) by Medicare. These calculations are considered in the model.

Emergency Department

The Emergency Department (ED) is a vital rural community service and is required for CAH certification. Although the ED must be open 24/7, the ED provider (physician, physician assistant, or advanced registered nurse practitioner) may be on-call to the ED and available within 30 minutes. ED provider staffing may be provided by local providers, private practitioners, or an ED staffing firm. Rural EDs are often expensive due to low patient volumes and significant professional staffing costs. However, ED revenue accrues primarily from three

sources: ED provider professional billing (fee-for-service), ancillary revenue (e.g., lab and x-ray ordered by the ED provider), and Medicare standby cost revenue. Although CAHs derive revenue from all three sources, Medicare standby cost revenue is unique to CAHs. Medicare reimburses CAHs for the time the ED provider is "standing by" and not treating patients. For example, if the ED provider is actually treating patients 4 hours out of 24 hours in a day, the ED provider is considered on standby for 20 hours. (The provider must be at the hospital to be considered on standby.) However, Medicare pays the CAH only for the proportion of Medicare patients to total patients. To continue the example above, if 40% of the patients seen are Medicare, then Medicare would reimburse the CAH for 8 hours (20 x 0.4) of ED provider compensation. A quick ED professional cost scenario is described below (nursing staff costs, indirect costs, and ancillary revenue are considered elsewhere in the feasibility model). **The feasibility model assumes a $100,000 cost (loss) for ED provider staffing.**

ED Professional Cost Calculation Example

8,760	hours per year
$70	per hour for a physician assistant (~ $145,600 per year)
$613,200	total professional cost per year (does not include nursing or indirects)
2,500	ED patients per year
20	minutes average patient face-to-face time (direct patient care)
833	hours per year of direct patient care
7,927	hours standby per year
$554,867	standby costs per year
40%	Medicare patients
$221,947	allowable standby costs
$224,166	paid by Medicare to the hospital (101%)
$120	professional service revenue per ED patient
$300,000	professional service revenue per year

Professional Revenue	Professional Costs
$224,166	$613,200
$300,000	$613,200
$524,166	

-$89,034 Total ED professional profit

Feasibility Model

Assumptions Summary

- The assumptions are conservative by design
- Service area population = 8,000
- Service volumes = Thomson-Reuters projections
- Average daily acute inpatient census = 2.71
- Average daily swing bed census = 1.0
- Facility cost (without clinic) = $33 million
- Capital fund raising = $5 million
- Start-up costs = $2 million
- Loan rate for 40 years = 6%
- Additional Emergency Department staffing costs = $100,000 per year
- Recruitment and housing costs = $200,000

Outputs

	Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
	X				

Patient Revenue	InPatient Payer Mix	Inpatient	OutPatient Payer Mix	Outpatient	Total
Gross Charges					
Medicare	82.82%	6,226,524	55.00%	6,566,445	$12,792,969
MediCal	7.35%	552,583	10.00%	1,193,899	1,746,482
Other 3rd Party	7.35%	552,583	30.00%	3,581,697	4,134,280
County Indigent	1.24%	93,225	2.00%	238,780	332,005
All Other	1.24%	93,225	3.00%	358,170	451,395
Total Gross Charges	100.00%	7,518,140	100.00%	11,938,990	19,457,131
Adjustements	**Realization %**		**Realization %**		
Medicare	65.21%	(2,166,299)	0.61%	(3,243,135)	(5,409,434)
MediCal	40.00%	(331,550)	40.00%	(716,339)	(1,047,889)
Other 3rd Party	60.00%	(221,033)	60.00%	(1,432,679)	(1,653,712)
County Indigent	20.00%	(74,580)	20.00%	(191,024)	(265,604)
All Other	40.00%	(55,935)	40.00%	(214,902)	(270,837)
Total Adjustments		(2,849,397)		5,798,079)	(8,647,476)
Net Patient Revenue					
Medicare		4,060,225		3,323,310	7,383,535
MediCal		221,033		477,560	698,593
Other 3rd Party		331,550		2,149,018	2,480,568
County Indigent		18,645		47,756	66,401
All Other		37,290		143,268	180,558
Total Net Revenue		4,668,743		6,140,912	$10,809,655

Expenses	Total
Salaries & Wages	3,948,098
Fringe Benefits	887,632
Depreciation	1,609,557
Interest	1,790,466
Other	3,093,349
Total Expense	11,329,102
Deficit	$ (519,447)

	Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
		X			

Patient Revenue	InPatient Payer Mix	Inpatient	OutPatient Payer Mix	Outpatient	Total
Gross Charges					
Medicare	82.82%	6,351,053	55.00%	6,852,610	$13,203,663
MediCal	7.35%	563,635	10.00%	1,245,929	1,809,564
Other 3rd Party	7.35%	563,635	30.00%	3,737,787	4,301,422
County Indigent	1.24%	95,089	2.00%	249,186	344,275
All Other	1.24%	95,089	3.00%	373,779	468,868
Total Gross Charges	100.00%	7,668,501	100.00%	12,459,291	127,792
Adjustements	**Realization %**		**Realization %**		
Medicare	65.02%	(2,221,691)	9.28%	(3,475,333)	(5,697,024)
MediCal	40.00%	(338,181)	40.00%	(747,557)	(1,085,738)
Other 3rd Party	60.00%	(225,454)	60.00%	(1,495,115)	(1,720,569)
County Indigent	20.00%	(76,071)	20.00%	(199,349)	(275,420)
All Other	40.00%	(57,053)	40.00%	(224,267)	(281,320)
Total Adjustments		(2,918,450)		6,141,621)	(9,060,071)
Net Patient Revenue					
Medicare		4,129,362		3,377,277	7,506,639
MediCal		225,454		498,372	723,826
Other 3rd Party		338,181		2,242,672	2,580,853
County Indigent		19,018		49,837	68,855
All Other		38,036		149,512	187,548
Total Net Revenue		4,750,051		6,317,670	$11,067,721

Expenses	Total
Salaries & Wages	4,116,629
Fringe Benefits	940,213
Depreciation	1,609,557
Interest	1,779,033
Other	3,063,456
Total Expense	11,508,888
Deficit	$ (441,167)

	Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
			X		

Patient Revenue	InPatient Payer Mix	Inpatient	OutPatient Payer Mix	Outpatient	Total
Gross Charges					
Medicare	82.82%	6,478,093	55.00%	7,139,094	$13,617,187
MediCal	7.35%	574,909	10.00%	1,298,017	1,872,926
Other 3rd Party	7.35%	574,909	30.00%	3,894,051	4,468,960
County Indigent	1.24%	96,991	2.00%	259,603	356,594
All Other	1.24%	96,991	3.00%	389,405	486,396
Total Gross Charges	100.00%	7,821,894	100.00%	12,980,170	802,063
Adjustements	**Realization %**		**Realization %**		
Medicare	64.89%	(2,274,187)	8.64%	(3,666,760)	(5,940,947)
MediCal	40.00%	(344,945)	40.00%	(778,810)	(1,123,755)
Other 3rd Party	60.00%	(229,964)	60.00%	(1,557,620)	(1,787,584)
County Indigent	20.00%	(77,593)	20.00%	(207,682)	(285,275)
All Other	40.00%	(58,195)	40.00%	(233,643)	(291,838)
Total Adjustments		(2,984,884)		6,444,515)	(9,429,399)
Net Patient Revenue					
Medicare		4,203,906		3,472,334	7,676,240
MediCal		229,964		519,207	749,171
Other 3rd Party		344,945		2,336,431	2,681,376
County Indigent		19,398		51,921	71,319
All Other		38,796		155,762	194,558
Total Net Revenue		4,837,009		6,535,655	$11,372,664

Expenses	Total
Salaries & Wages	4,240,129
Fringe Benefits	991,113
Depreciation	1,609,557
Interest	1,766,895
Other	3,163,969
Total Expense	11,771,663
Deficit	$ (398,999)

	Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
				X	

Patient Revenue	InPatient Payer Mix	Inpatient	OutPatient Payer Mix	Outpatient	Total
Gross Charges					
Medicare	82.82%	6,607,648	55.00%	7,425,892	$14,033,540
MediCal	7.35%	586,407	10.00%	1,350,162	1,936,569
Other 3rd Party	7.35%	586,407	30.00%	4,050,487	4,636,894
County Indigent	1.24%	98,931	2.00%	270,032	368,963
All Other	1.24%	98,931	3.00%	405,049	503,980
Total Gross Charges	100.00%	7,978,324	100.00%	13,501,622	21,479,946
Adjustements	**Realization %**		**Realization %**		
Medicare	64.87%	(2,321,544)	8.11%	(3,853,125)	(6,174,669)
MediCal	40.00%	(351,844)	40.00%	(810,097)	(1,161,941)
Other 3rd Party	60.00%	(234,563)	60.00%	(1,620,195)	(1,854,758)
County Indigent	20.00%	(79,145)	20.00%	(216,026)	(295,171)
All Other	40.00%	(59,359)	40.00%	(243,029)	(302,388)
Total Adjustments		(3,046,455)		6,742,472)	(9,788,927)
Net Patient Revenue					
Medicare		4,286,104		3,572,767	7,858,871
MediCal		234,563		540,065	774,628
Other 3rd Party		351,844		2,430,292	2,782,136
County Indigent		19,786		54,006	73,792
All Other		39,572		162,020	201,592
Total Net Revenue		4,931,869		6,759,150	$11,691,019

Expenses	Total
Salaries & Wages	4,367,327
Fringe Benefits	1,045,308
Depreciation	1,609,557
Interest	1,754,009
Other	3,278,092
Total Expense	12,054,293
Deficit	$ (363,274)

	Year				
	Year 1	Year 2	Year 3	Year 4	Year 5
					X

Patient Revenue	InPatient Payer Mix	Inpatient	OutPatient Payer Mix	Outpatient	Total
Gross Charges					
Medicare	82.82%	6,739,802	55.00%	7,713,021	$14,452,823
MediCal	7.35%	598,135	10.00%	1,402,367	2,000,502
Other 3rd Party	7.35%	598,135	30.00%	4,207,102	4,805,237
County Indigent	1.24%	100,910	2.00%	280,473	381,383
All Other	1.24%	100,910	3.00%	420,710	521,620
Total Gross Charges	100.00%	8,137,892	100.00%	14,023,674	22,161,565
Adjustements	**Realization %**		**Realization %**		
Medicare	65.05%	(2,355,393)	7.85%	(4,022,542)	(6,377,935)
MediCal	40.00%	(358,881)	40.00%	(841,420)	(1,200,301)
Other 3rd Party	60.00%	(239,254)	60.00%	(1,682,841)	(1,922,095)
County Indigent	20.00%	(80,728)	20.00%	(224,378)	(305,106)
All Other	40.00%	(60,546)	40.00%	(252,426)	(312,972)
Total Adjustments		(3,094,802)		7,023,607)	(10,118,409)
Net Patient Revenue					
Medicare		4,384,409		3,690,479	8,074,888
MediCal		239,254		560,947	800,201
Other 3rd Party		358,881		2,524,261	2,883,142
County Indigent		20,182		56,095	76,277
All Other		40,364		168,284	208,648
Total Net Revenue		5,043,090		7,000,066	$12,043,156

Expenses	Total
Salaries & Wages	4,498,338
Fringe Benefits	1,103,099
Depreciation	1,609,557
Interest	1,740,328
Other	3,437,765
Total Expense	12,389,087
Deficit	$ (345,931)

Conclusions

Based on conservative assumptions, the feasibility model projects modest losses for the first five years of operation.

- Year 1 = -$519,447
- Year 2 = -$441,167
- Year 3 = -$398,999
- Year 4 = -$363,274
- Year 5 = -$345,931

Several strategies will be required to achieve profitability:

- Increase market share and expand service lines
- Negotiate more favorable reimbursement (collection) rates
- Supplement revenue with grants, fund raising, or taxes
- Achieve cost-savings through CLSD, RCMS, and CAH consolidation (cost-savings amount is unknown, but may be up to $500,000)

Facility Model

With Primary Care Clinic

CO	DGSF	ST TO BASE RATIO	COST BY DEPT
SURGERY	1,369	1.4	$ 1,149,960
MED/SURG BEDS	3,949	1.3	$ 3,080,220
IMAGING	3,540	1.3	$ 2,761,200
LAB-PREADMIT	1,860	1.2	$ 1,339,200
EMERGENCY	3,013	1.2	$ 2,169,360
FAMILY MED CLINIC	3,101	1.2	$ 2,232,720
RESP THERAPY	516	1.1	$ 340,560
PHARMACY	839	1.0	$ 503,400
LAUNDRY 7	02	1.0	$ 421,200
DIETARY	1,680	1.3	$ 1,310,400
MECH-ELECT-MAINT	1,924	1.2	$ 1,385,280
DOCK HOUSKEEP STAFF	1,984	1.1	$ 1,309,440
PUBLIC SPACE LOBBY	1,248	1.1	$ 823,680
ADMIN-MED REC-BUSINESS	5,503	1.0	$ 3,301,800
TOTAL DGSF	31,228		
DGSF COSTS			$ 22,128,420
DGSF/GROSS RATIO 0.2	6,246		
CIRCULATION COSTS	6,246	1.0	$ 3,747,360
TOTAL BUILDING GROSS S/F	37,474		
TOTAL CONSTRUCTION COSTS			$ 25,875,780
SOFT COSTS			
ARCHITECT - ENGINEERING	7.50%		$ 1,940,684
PRINTING -REIMURSABLES	0.50%		$ 129,379
PERMITS, FEES	1%		$ 194,068
OTHER CONSULTANTS	1%		$ 258,758
TOTAL SOFT COSTS			$ 2,522,889
MEDICAL EQUIPMENT	16%		$ 4,140,125
FF & E	5%		$ 1,293,789
IT-COMMUNICATIONS	4%		$ 1,035,031
COSTS WITHOUT CONTINGENCY			$ 34,867,614
OWNER'S CONTINGENCY	5%		$ 1,743,381
TOTAL PROJECT COSTS*			$ 36,610,994

* See critical facility planning assumptions

Without Primary Care Clinic

CO	DGSF	ST TO BASE RATIO	COST BY DEPT
SURGERY	1,369	1.4	$ 1,149,960
MED/SURG BEDS	3,949	1.3	$ 3,080,220
IMAGING	3,540	1.3	$ 2,761,200
LAB-PREADMIT	1,860	1.2	$ 1,339,200
EMERGENCY	3,013	1.2	$ 2,169,360
FAMILY MED CLINIC	-	1.2	$ -
RESP THERAPY	516	1.1	$ 340,560
PHARMACY	839	1.0	$ 503,400
LAUNDRY 7	02	1.0	$ 421,200
DIETARY	1,680	1.3	$ 1,310,400
MECH-ELECT-MAINT	1,924	1.2	$ 1,385,280
DOCK HOUSKEEP STAFF	1,984	1.1	$ 1,309,440
PUBLIC SPACE LOBBY	1,248	1.1	$ 823,680
ADMIN-MED REC-BUSINESS	5,503	1.0	$ 3,301,800
TOTAL DGSF	28,127		
DGSF COSTS			$ 19,895,700
DGSF/GROSS RATIO 0.2	5,625		
CIRCULATION COSTS	5,625	1.0	$ 3,375,240
TOTAL BUILDING GROSS S/F	33,752		
TOTAL CONSTRUCTION COSTS			$ 23,270,940
SOFT COSTS			
ARCHITECT - ENGINEERING	7.50%		$ 1,745,321
PRINTING -REIMURSABLES	0.50%		$ 116,355
PERMITS, FEES	1%		$ 174,532
OTHER CONSULTANTS	1%		$ 232,709
TOTAL SOFT COSTS			$ 2,268,917
MEDICAL EQUIPMENT	16%		$ 3,723,350
FF & E	5%		$ 1,163,547
IT-COMMUNICATIONS	4%		$ 930,838
COSTS WITHOUT CONTINGENCY			$ 31,357,592
OWNER'S CONTINGENCY	5%		$ 1,567,880
TOTAL PROJECT COSTS*			$ 32,925,471

*See critical facility planning assumptions

Assumptions

- Construction cost = $600 per foot^2
- All utilities to site
- 2011 construction start
- Mendocino County area
- Finance costs not included
- Land costs not included
- Code surface parking
- $2,000,000 operations start-up costs (in addition to facility costs)
- $5,000,000 fund raising capital
- Debt at financed at 6% interest rate for 40 years

Financing Costs

Assumptions Without Clinic						
Annual Interest Rate	6%					
Duration of the Loan in Years	40					
Number of Payments Per year	12					
Total Project Costs	$32,925,132					
Other Start up Costs	$2,000,000					
Total Capital Required	$34,925,132					
Fund Raising and Other Contributions	$5,000,000					
Amount to be Financed	$29,925,132					
Monthly Payments	$164,652.16					
Check if Includes Surgery	X					
Year	1	2	3	4	5	
Interest	1,790,466	1,779,033	1,766,895	1,754,009	740,328	
Depreciation	1,609,557	1,609,557	1,609,557	1,609,557	609,557	
Total Capital Costs	3,400,023	3,388,590	3,376,452	3,363,566	349,885	
Payments	1,975,826	1,975,826	1,975,826	1,975,826	975,826	
Difference	1,424,197	1,412,764	1,400,626	1,387,740	374,059	

Debt Service Coverage Ratio

Debt Service Coverage Ratio Analysis

	Current Portion of Debt	Interest Exp	Current Debt Plus Interest
Year 1	185,360	1,790,466	1,975,826
Year 2	196,793	1,779,033	1,975,826
Year 3	208,931	1,766,895	1,975,826
Year 4	221,817	1,754,009	1,975,826
Year 5	235,498	1,740,328	1,975,826

			Item
Net Revenue	$	10,809,655	A
Total Expenses, Less: Interest and Deparеciation		7,929,079	B
Debt Service (Note Payments)		1,975,826	**C**
Net revenue Less Expenses	$	2,880,576	Item A Less Item B
Debt Servcie Coverage Ratio		**1.46**	(Item A Less Item B)/Item C

DSCR = Ratio of total income plus interest expense plus depreciation and amortization to interest expense plus current portion of long-term debt. DSCR > 1.40 is considered favorable by lenders.

Capital Financing Options

New rural hospital construction financing is typically obtained from a variety of sources including organizational reserve funds (not applicable to Gualala), charitable fund raising, bank-issued bonds, state or other grants, and federal government guaranteed bonds (HUD and USDA). The American Recovery and Reinvestment Act makes additional debt financing opportunities available. Furthermore, the State of California actively assists health care organizations with debt financing.

Conclusions

- Total cost for a 6-bed critical access hospital located in Mendocino County will be **$33 million to $37 million** depending on inclusion (or not) of a 6-provider primary care clinic and other factors.
- Please see Appendix for CAH facility space program details. However, note that the Appendix includes assumptions for a larger surgical suite. In the projections above the surgical suite has been downsized 75% at client request.
- Monthly loan payments are estimated to be ~ $165,000.
- The Year 1 feasibility model output suggests a debt service coverage ratio of 1.46 which should be favorable for debt acquisition.

Unknowns

- Feasibility model assumptions – ↓ or ↑ feasibility

  Economic modeling is predicated on assumptions. In this case, assumptions about service area population (and consequent service utilization), market share, gross to net revenue ratios, salary expenses, financing costs, etc. all impact feasibility. Model output is only as accurate as the input assumptions.

- Healthcare reform – ↑ feasibility

  Healthcare reform will likely decrease the number of uninsured and therefore will likely increase hospital revenue. Medicaid reimbursement will be increased to Medicare levels (hospitals negotiate individually with Medi-Cal, but an increased reimbursement is likely). Community Health Centers will have increased funding, including programs designed to facilitate FQHC and CAH collaboration.

- California state budget crisis – ↓ feasibility

  State budget crises jeopardize Medicaid (Medi-Cal) reimbursements and coverage. Potentially, hospitals could see reduced state payments and more self-pay patients. Healthcare reform may mollify this negative effect (see above).

- Private insurer payment rates – ↓ or ↑ feasibility

  Large health systems are at an advantage when negotiating private insurer rates. However, rural areas have traditionally been able to negotiate favorably because insurers desire an expanded coverage area (and larger provider panels).

- FQHC policy support – ↑ feasibility

  FQHCs currently benefit from significant federal support, including support for capital projects. It is unclear at this time if it would be advantageous for RCMS to own the hospital, lease new clinic space from the hospital, or remain completely independent.

- Depressed healthcare facility construction market – ↑ feasibility

  A depressed healthcare facility construction market may decrease hospital construction costs.

Project Conclusions

- The Gualala, California service area (six ZIP codes) has a population of 6,000-12,000 – adequate to support a small rural hospital.
- Forty four miles to the nearest hospital (Mendocino Coast District Hospital) and 2-hour transport times to the nearest trauma center (Santa Rosa) strongly suggest the need for local hospital services in Gualala, California.
- If financially viable, a hospital located in Gualala would likely be of significant economic benefit to the community (economic multiplier effect of local health care).
- There are no regulatory barriers to development of a new Critical Access Hospital (CAH) in Gualala, California.
- The CAH economic feasibility model's accuracy is directly dependent on the accuracy of revenue assumptions (e.g., service area population, market share, and collection rate) and the accuracy of expense assumptions (e.g., salary/benefit, facility, and financing costs).
- Using conservative baseline assumptions (e.g., a population of 8,000 and inpatient market share of 34%), first year projected net revenue loss is -$519,447.
- The total cost for a new six-bed CAH in Gualala would be $33 million to $36 million.
- A new CAH in Gualala is *potentially* feasible assuming:
  - Effective marketing of hospital services and resolute attention to positive community reputation to ensure strong and increasing market share
  - Rapid development of profitable new service lines attractive to patients with third party insurance coverage
  - Aggressive negotiation with Medi-Cal/3rd party payers for favorable rates
  - Additional revenue through grants, fund raising, and taxation
  - Cost-savings through CLSD, RCMS, and CAH consolidation
  - Development of a local health care system defined by modern facility and equipment, high clinical quality, customer focus, and physician/hospital alignment

Appendix

The Continuum of Critical Access Hospital Services

The following list represents a continuum of services typically provided at Critical Access Hospitals (CAH). The tripartite division (Essential, Intermediate, and Advanced) is arbitrary. Many CAHS successfully offer a blend of these services. Importantly, offering additional services does not imply better quality. CAHs should be expected to provide the same, or better, quality than any other hospital for those services that they provide. CAHs also occasionally provide services not typically considered integral to hospital care; e.g., primary care clinics, home health, emergency medical services (EMS), durable medical equipment (DME), nursing home care, and assisted living services.

	Essential	Intermediate	Advanced
Inpatient	Low risk general medical diagnoses; e.g., • Community acquired pneumo-nia • Heart failure exacerbation • Emphysema exacerbation • Dehydration Swing bed program Physicians on-call	Essential services plus – Intermediate risk medical diagnoses; e.g., • Sepsis • Acute stroke without thrombo-lysis • Pulmonary embolism Electronic intensive care unit Physicians on-call	Intermediate services plus – Intensive nursing care diagnoses; e.g., • Diabetic ketoacidosis • Post-operation • Ventilator care Obstetrics Hospitalist (part-time)
Emergency	Stabilization or definitive care Admissions as per above conditions On-call provider coverage	Essential services plus – Admissions as per above conditions Mid-level provider coverage (full-time)	Intermediate services plus – Admissions as per above conditions Physician coverage (full-time)
Imaging	Plain imaging Computerized tomography (CT) Mammography DexaScan (bone density) Computerized radiology (electronic image transmission) No onsite radiologist	Essential services plus – • Magnetic resonance imaging (part-time) • Ultrasound (part-time) • Picture Archiving and Communica-tion System (PACS) Radiologist onsite 2-3 days/week	Intermediate services plus – • Magnetic resonance imaging (full-time) • Ultrasound (full-time) • Nuclear imaging (part-time) • Interventional radiology Radiologist onsite 5 days/week

Laboratory	Hematology Chemistry Cardiac marker Coagulation Urinalysis Arterial blood gas O-negative blood	Essential services plus – • Additional chemistries • Certain drug levels • Blood bank	Intermediate services plus – • Additional chemistries • Toxicology screen • Tissue pathology
Procedures	Colonoscopy Gastroscopy	Essential services plus – Outpatient procedures; e.g., • Laparoscopy • Arthroscopy • Cystoscopy • Cataract surgery	Intermediate services plus – Surgeries requiring general anesthesia; e.g., • Open abdominal procedures • Open orthopedics C-section Limited trauma
Outpatient	IV antibiotic Certain drug injection	Essential services plus – • Blood product transfusion • Chemotherapy infusion	Intermediate services plus – • Hemodialysis • Elective cardioversion • Pacemaker placement
Rehabilitation	Physical therapy Workers compensation	Essential services plus – • Occupational therapy (part-time) • Speech therapy (part-time) • Athletic training • Cardiac rehabilitation	Intermediate services plus – • Occupational therapy (full-time) • Comprehensive occupational health • Wound care program • Wellness/fitness program
Cardio-Respiratory	Nebulizer treatment Spirometry Pulmonary function test Electrocardiogram Graded exercise test	Essential services plus – • Echocardiogram • Stress echocardiogram • C-PAP or BiPAP	Intermediate services plus – • Sleep study • Electroencephalogram • Nuclear graded exercise test • Ventilator management
Outreach Specialists	Cardiology Orthopedics General surgery	Essential services plus – • Ophthalmology • Urology • ENT • Neurology	Intermediate services plus – • Nephrology • Dermatology • Oncology • Pain management • Psychiatry

Inpatient Revenue Assumptions

INPATIENT CLINICAL SERVICES CATEGORIES	Thomson Inpt Days	100% Market Volumes		Adj. Market Volumes		Projected Market Share		Projected Volumes
		20% < 65	80% ≥ 65	20% < 65	80% ≥ 65	% < 65	% ≥ 65	
GENERAL MEDICINE	315	63	252	88	351	80.00%	80.00%	351
CARDIOLOGY	268	54	214	75	298	50.00%	50.00%	187
PULMONARY	262	52	210	72	292	50.00%	50.00%	182
GASTROENTEROLOGY	174	35	139	49	193	50.00%	50.00%	121
ENDOCRINE	58	12	46	17	64	50.00%	50.00%	41
NEUROLOGY	138	28	110	39	153	20.00%	20.00%	38
PSYCH/DRUG ABUSE	92	18	74	25	103	20.00%	20.00%	26
NEPHROLOGY	77	15	62	21	86	20.00%	20.00%	21
UROLOGY	43	9	34	13	47	20.00%	20.00%	12
TRAUMA	23	5	18	7	25	20.00%	20.00%	6
OTOLARYNGOLOGY	12	2	10	3	14	20.00%	20.00%	3
RHEUMATOLOGY	4	1	3	1	4	20.00%	20.00%	1
DENTISTRY	2	0	2	0	3	0.00%	0.00%	0
DERMATOLOGY	53	11	42	15	58	0.00%	0.00%	0
GENERAL SURGERY	343	69	274	96	381	0.00%	0.00%	0
GYNECOLOGY	44	9	35	13	49	0.00%	0.00%	0
HEMATOLOGY	24	5	19	7	26	0.00%	0.00%	0
HIV	3	1	2	1	3	0.00%	0.00%	0
NEONATOLOGY	79	16	63	22	88	0.00%	0.00%	0
NEUROSURGERY	34	7	27	10	38	0.00%	0.00%	0
NORMAL NEWBORNS	61	12	49	17	68	0.00%	0.00%	0
OB/DELIVERY	124	25	99	35	138	0.00%	0.00%	0
ONCOLOGY MEDICAL	74	15	59	21	82	0.00%	0.00%	0
OPEN HEART	72	14	58	19	81	0.00%	0.00%	0
OPHTHALMOLOGY	1	0	1	0	1	0.00%	0.00%	0
ORTHOPEDICS	397	79	318	110	442	0.00%	0.00%	0
OTHER	0	0	0	0	0	0.00%	0.00%	0
OTHER OB	17	3	14	4	19	0.00%	0.00%	0
THORACIC SURGERY	73	15	58	21	81	0.00%	0.00%	0
VASCULAR SURGERY	50	10	40	14	56	0.00%	0.00%	0
				2917				989
							% of all pt days	33.90%

Note: Inpatient days depicted above does not include Swing bed patients.

Salary and Full Time Equivalent (FTE) Assumptions

Descriptions	Full-time Salary Assumptions 2/2010 Salary.com	Year 1			
		Inflation Adjustment	Full-time Salary Assumptions	FTEs	Salary Expense
		3.00%			
Total Salary Expense				57.90	$ 3,812,403
Administration					
Chief Executive Officer	$ 200,000	3.00%	206,000	1.00	$ 206,000
Chief Financial Officer	$ 150,000	3.00%	154,500	1.00	$ 154,500
Chief of Staff	$ 230,000	3.00%	236,900	0.10	$ 23,690
Financial Support/Accountant	$ 80,000	3.00%	82,400	0.50	$ 41,200
Administrative Support/ Admin Assistant	$ 43,000	3.00%	44,290	1.00	$ 44,290
Claims Processing Clerk/reimbursement Specialist	$ 38,000	3.00%	39,140	3.00	$ 117,420
Reception	$ 28,500	3.00%	29,355	2.00	$ 58,710
Other - Business Office, Admit/Discharge	$ 50,000	3.00%	51,500	1.00	$ 51,500
Other		3.00%	-		$ -
Total Administrative Salaries				9.60	$ 697,310
Plant Operations					
Director of Plant Operations	$ 60,000	3.00%	61,800	1.00	$ 61,800
Maintenance Support	$ 38,000	3.00%	39,140	1.00	$ 39,140
Other		3.00%	-		$ -
Total Plant Operation Salaries				2.00	$ 100,940
Laundry					
Director of Laundry Services	$ 48,000	3.00%	49,440	1.00	$ 49,440
Laundry Support		3.00%	-		$ -
Total Laundry Salaries				1.00	$ 49,440
Housekeeping					
Director of Housekeeping	$ 60,000	3.00%	61,800	1.00	$ 61,800
Housekeeper	$ 24,000	3.00%	24,720	2.00	$ 49,440
Total Housekeeping Salaries				3.00	$ 111,240
Dietary					
Director of Dietary (Supervisor)	$ 60,000	3.00%	61,800	1.00	$ 61,800
Dietary Support	$ 20,000	3.00%	20,600	2.00	$ 41,200
Total Dietary Salaries				3.00	$ 103,000
Human Resources					
Director of Human Resources	$ 79,000	3.00%	81,370	1.00	$ 81,370
Human Resources Support		3.00%	-		$ -
Total Human Resources Salaries				1.00	$ 81,370
Nursing Administration					
Director of Nursing	$ 97,000	3.00%	99,910	1.00	$ 99,910
Nursing Admin. Support (shared among depts)	$ 43,000	3.00%	44,290	1.00	$ 44,290
Total Nursing Administration Salaries				2.00	$ 99,768
Central Supply					
Director of Central Supply (Supervisor)	$ 50,000	3.00%	51,500	1.00	$ 51,500
Central Supply Support		3.00%	-	0.50	$ -
Total Central Supply Salaries				1.50	$ 51,500

Descriptions	Full-time Salary Assumptions 2/2010 Salary.com	Year 1			
		Inflation Adjustment	Full-time Salary Assumptions	FTEs	Salary Expense
		3.00%			
Total Salary Expense				57.90	$ 3,812,403
Pharmacy					
Director of Pharmacy	$ 150,000	3.00%	154,500	1.00	$ 154,500
Pharmacists		3.00%	-		$ -
Pharmacy Technicians	$ 50,000	3.00%	51,500	1.00	$ 51,500
Pharmacy Support		3.00%	-		$ -
Total Pharmacy Salaries				2.00	$ 206,000
Medical Records					
Director of Medical Records	$ 80,000	3.00%	82,400	1.00	$ 82,400
Medical Records Support	$ 30,000	3.00%	30,900		$ -
Total Medical Records Salaries				1.00	$ 82,400
Adults & Pediatrics					
Registered Nurses	$ 90,000	3.00%	92,700	11.00	$ 1,019,700
Licensed Practical Nurses		3.00%	-		$ -
Nursing Assistants	$ 27,000	3.00%	27,810	4.00	$ 111,240
Nursing Support (Medical Secretary)		3.00%	-		$ -
Other		3.00%	-		$ -
Total Adult and Pediatrics Salaries				15.00	$ 1,130,940
Radiology					
Director of Radiology	$ 80,000	3.00%	82,400	1.00	$ 82,400
Radiology Technicians	$ 48,500	3.00%	49,955	5.00	$ 249,775
Radiology Support		3.00%	-		$ -
Total Radiology Salaries				6.00	$ 332,175
Laboratory					
Director of Laboratory Services	$ 80,000	3.00%	82,400	1.00	$ 82,400
Laboratory Technicians	$ 41,000	3.00%	42,230	5.00	$ 211,150
Laboratory Support		3.00%	-		$ -
Other		3.00%	-		$ -
Total Laboratory Salaries				6.00	$ 293,550
Physical Therapy					
Director of Physical Therapy	$ 106,000	3.00%	109,180	1.00	$ 109,180
Physical Therapists		3.00%	-		$ -
PT Technicians	$ 29,000	3.00%	29,870	1.00	$ 29,870
PT Support		3.00%	-		$ -
Total Physical Therapy Salaries				2.00	$ 139,050
Health Information Technology					
Director	$ 100,000	3.00%	103,000	1.00	$ 103,000
Other		3.00%	-		$ -
Total HIT Salaries				1.00	$ 103,000
Endoscopy					
Director of Endoscopy	$ 80,000	3.00%	82,400	0.80	$ 65,920
Other Endoscopy		3.00%	-		$ -
Total Endoscopy Salareies				0.80	$ 65,920
Case Management/QI					
Director of Case management	$ 80,000	3.00%	82,400	1.00	$ 82,400
Other Case management		3.00%	-		$ -
Total Case Management Salaries				1.00	$ 82,400
Cardio-Repiratory					
Director of Cardio-Respiratory	$ 80,000	3.00%	82,400	1.00	$ 82,400
Other Cardio-Respiratory		3.00%	-		$ -

CAH Facility Space Program

NOTE: Surgery downsized 75% for final projections.

CAH HOSPITAL CONCEPTUAL SPACE PROGRAM

6 BED MODEL

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
SURGERY DEPARTMENT					
PUBLIC SPACE					
PRE-OP WAITING	10	15	150		
RECEPTIONIST	0	100	0		
COFFEE BAR	0	10	0		
CONSULTATION ROOM	1	80	80		
PUBLIC TOILET	2	48	96		
TELEPHONES	0	10	0		
SUBTOTAL			326	1.3	424
PREOPERATIVE AREA					
PATIENT PRE OP HOLDING	4	100	400		
PATIENT TOILET/DRESSING	2	80	160		
LINEN STORAGE	1	30	30		
NURSING AREA / WORK	1	140	140		
SUBTOTAL			730	1.3	949
POST ANESTHESIA CARE UNIT					
NURSE'S STATION / CHARTING	1	120	120		
CLEAN UTILITY / NOURISHMENT	1	40	40		
MEDICATION COUNTER	1	10	10		
DICTATION	1	10	10		
SOILED UTILITY / SOILED LINEN	1	80	80		
SUPPLY / STORAGE / CLEAN LINEN	1	40	40		
RECOVERY STATIONS	1	100	100		
ISOLATION RECOVERY	1	120	120		
PEDIATRIC RECOVERY	0	120	0		
STRETCHER / EQUIPMENT STORAGE	1	20	20		
STAFF TOILET	1	48	48		
STAFF LOCKERS	1	120	120		
STAFF LOUNGE	0	220	0		
PATIENT TOILET	1	48	48		
HOUSEKEEPING	1	20	20		
SUBTOTAL			776	1.4	1,086
SECOND STAGE RECOVERY AREA					
RECLINER-STRETCHER STATIONS	2	80	160		
PATIENT TOILETS	1	48	48		
NOURISHMENT AREA / SUB STATION	0	60	0		
PAIN TREATMENT ROOMS	0	360	0		
SUBTOTAL			208	1.2	249.6

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
REGISTRATION / BUS OFFICE / MEDICAL RECORDS / ADMIN					
INTERNAL WAITING	1	80	80		
RECEPTION DESK	1	60	60		
INTERVIEW / ADMIT STATION	2	80	160		
CASHIER / CONSULTATION	1	60	60		
ADMIN OFFICES	3	200	600		
MGRS OFFICE .	3	100	300		
BOARD ROOM	1	600	600		
SECRETARIAL SUPPORT	2	80	160		
WORK ROOM / COPIER	1	200	200		
BUSINESS OFFICE	1	800	800		
COMPUTER / SERVER	1	90	90		
SUPPLY STORAGE	1	50	50		
COFFEE BAR	1	20	20		
JANITOR	1	10	10		
CONFERENCE / EDUCATION	1	400	400		
TOILET	2	48	96		
MEDICAL RECORDS					
TRANSCRIPTION / WORK	1	380	380		
MEDICAL RECORDS STORAGE	1	300	300		
MEDICAL RECORDS OFFICE	2	80	160		
DRS. DICTATING	2	30	60		
SUBTOTAL			4,586	1.2	5,503
DEPARTMENTAL TOTAL					**5,503**

DEPARTMENTAL TOTALS	**34,637**
BUILDING GROSSING FACTOR	**1.2**
TOTAL BUILDING GROSS SQUARE FEET	**41,564**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
PROCEDURES / SUPPORT					
MINIMUM SIZE OR		360	0		
STANDARD SIZE OR	1	460	460		
ABOVE STANDARD OR	0	620	0		
ORTHO / CARDIOVASCULAR OR	0	700	0		
PUMP ROOM	0	96	0		
SPECIAL EQUIPMENT ROOM	0	96	0		
ISOLATION OR	0	360	0		
ANTE ROOM	0	96	0		
SURGICAL LASER ROOM	0	400	0		
SUB STERILE / FLASH STERILIZER	0	115	0		
SCRUB STATIONS	1	20	20		
SPECIAL PROCEDURE (GEN.ANES.)	0	350	0		
SCRUB STATIONS	0	80	0		
ORTHO. STORAGE	0	50	0		
GENERAL SURGICAL STORAGE	1	100	100		
CLEAN UTILITY W / ICE MACHINE	1	80	80		
CAST ROOM	0	80	0		
ANES. WORK ROOM W / GAS STORAGE	1	80	80		
CRASH CART / MEDICATION / CARTS	1	10	10		
STRETCHER ALCOVE	1	40	40		
SOILED WORK ROOM	1	60	60		
MEDICATIONS	1	10	10		
HOUSEKEEPING	1	10	10		
SUBTOTAL			870	1.35	1,175
CENTRAL STERILE SUPPLY					
DECONTAMINATION	1	180	180		
CLEAN ASSEMBLY	1	140	140		
STERILE SUPPLY / CART STORAGE	1	180	180		
OFFICE / WORK	1	80	80		
HOUSEKEEPING	1	10	10		
STERILE EQUIPMENT	1	120	120		
SUBTOTAL			710	1.3	923
PHYSICIANS / STAFF					
O.R. CONTROL	0	60	0		
O.R. SUPERVISOR	1	80	80		
STAFF LOUNGE	1	200	200		
MALE LOCKERS	1	80	80		
MALE TOILET	1	48	48		
FEMALE LOCKERS	1	80	80		
FEMALE TOILET	1	48	48		
SUBTOTAL			536	1.25	670
DEPARTMENTAL TOTAL					**5,476**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
PUBLIC SPACE / LOBBY					
PUBLIC / SUPPORT					
WAITING/LOBBY	1	600	600		
VESTIBULE	0	140	0		
PUBLIC TOILETS	2	120	240		
RECEPTIONIST / INFORMATION	1	100	100		
WHEELCHAIR ALCOVE	1	20	20		
CHAPEL	0	100	0		
GIFT SHOP - VOLUNTEERS	0	300	0		
MEETING ROOMS	0	560	0		
SUBTOTAL			960	1.3	1,248
DEPARTMENTAL TOTAL					**1,248**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
MEDICAL- SURGICAL BEDS					
STANDARD SEMI-PRIVATE W / TOILET	0	390	0		
STANDARD PRIVATE W / TOILET	4	320	1,280		
PRIVATE W / SITTING ROOM & TOILET	0	435	0		
ISO. BEDROOM W / TOILET & ANTE ROOI	1	320	320		
SECLUSION ROOM W / TOILET	1	320	320		
CLEAN WORK / LINEN / STORAGE	1	80	80		
SOILED UTILITY / LINEN	1	80	80		
NURSE STATION / CHARTING	1	200	200		
DICTATION	2	30	60		
STRETCHER ALCOVE	1	30	30		
EQUIPMENT STORAGE	1	20	20		
HOUSEKEEPING	1	10	10		
NURSES OFFICE	1	80	80		
STAFF TOILET	1	48	48		
STAFF LOCKERS	1	60	60		
STAFF LOUNGE	1	220	220		
EXAM ROOM	0	100	0		
PUBLIC TOILET	0	70	0		
SPECIAL BATHING	0	100	0		
MEDICATION	1	20	20		
NOURISHMENT	1	70	70		
MULTI PURPOSE ROOM	1	120	120		
EMERGENCY EQUIPMENT	1	20	20		
CONTROL STATION	0	100	0		
SUB - WORK STATION	0	155	0		
SUBTOTAL			3,038	1.3	3,949
DEPARTMENTAL TOTAL					**3,949**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
LABORATORY / PRE-ADMIT					
BLOOD DRAWING STATIONS	1	40	40		
SPECIMEN TOILET	1	48	48		
PRE ADMIT WAITING	1	80	80		
PRE-ADMIT NURSE STATION	1	80	80		
PRE-ADMIT WORK AREA	1	100	100		
PRE-ADMIT EXAM	1	100	100		
GENERAL LAB AREA / STORAGE	1		0		
BLOOD BANK AREA	1	100	100		
PATHOLOGIST OFFICE	1	100	100		
HOUSEKEEPING	1	10	10		
HISTOLOGY LAB	1	140	140		
HEMOTOLOGY	1	120	120		
URINALYSIS	1	120	120		
CYTOLOGY	0	120	0		
MICROBIOLOGY	0	120	0		
BACTERIOLOGY	0	120	0		
GENERAL STORAGE	1	80	80		
CHEMICAL SAFETY FACILITIES	1	10	10		
FLAMMABLE LIQUIDS STORAGE	0	10	0		
SUBTOTAL			1128	1.2	1,354
DEPARTMENTAL TOTAL					**1,354**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
LAUNDRY SERVICES					
RECEIVING / CONTROL	0	80	0		
SOILED LINEN HOLDING	1	120	120		
SOILED CARTS	1	90	90		
CLEAN LINEN RECEIVING / STORAGE	1	100	100		
CLEAN LINEN CARTS	1	70	70		
OFFICE	1	80	80		
SOILED HOLD / SORT	1	70	70		
WASHING EQUIPMENT	0	80	0		
DRYERS	0	90	0		
FOLDING	0	100	0		
CART STORAGE		70	0		
CLEANING SUPPLY STORAGE		40	0		
HOUSEKEEPING	1	10	10		
SUBTOTAL			540	1.3	702
DEPARTMENTAL TOTAL					**702**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
IMAGING CENTER					
WAITING	1	140	140		
CONTROL / RECEPTION	1	60	60		
PATIENT HOLDING	1	20	20		
MALE DRESSING	2	60	120		
MALE TOILET	1	48	48		
FEMALE DRESSING	2	60	120		
FEMALE TOILET	1	48	48		
STRETCHER STORAGE	1	20	20		
INTERNAL WAITING	0	60	0		
MRI	0	500	0		
MRI EQUIPMENT / COMPUTER	0	180	0		
CRYOGEN STORAGE	0	60	0		
CHILLED WATER EQUIPMENT	0	80	0		
MRI CONSOLE / CONTROL	0	110	0		
CT SCANNER	1	300	300		
CT CONTROL	1	60	60		
CT EQUIPMENT	1	90	90		
TOILET ROOM	1	60	60		
R&F ROOM	1	300	300		
CONTROL	1	40	40		
TOILET ROOM	1	60	60		
RAD / TOMO ROOM	1	300	300		
CONTROL	1	40	40		
MAMMOGRAPHY ROOM	1	140	140		
ULTRASOUND	1	120	120		
TOILET	1	60	60		
NUCLEAR MEDICINE	0	160	0		
CONTROL	0	40	0		
RADIOPHARMACY	0	60	0		
PET SCANNER	0	300	0		
CYCLOTRON	0	225	0		
HOT LAB	0	250	0		
COLD LAB	0	200	0		
BLOOD LAB	0	80	0		
GAS STORAGE	0	80	0		
CHEST ROOM	0	140	0		
ANGIOGRAPHY	0	400	0		
CONTROL	0	40	0		
VIEWING	0	70	0		
SCRUB	0	10	0		
EQUIPMENT STORAGE ALCOVE	0	20	0		
PATIENT OBSERVATION CUBICLE	0	90	0		
DAYLIGHT / DIGITAL IMAGING AREA	0	160	0		
DARK ROOM	0	90	0		
VIEWING / Q C	1	80	80		
STAFF TOILETS	2	48	96		
STAFF LOCKERS	0	60	0		
INACTIVE FILM STORAGE	0	100	0		
ACTIVE FILM STORAGE	0	100	0		
SOILED WORK ROOM	1	30	30		
MEDICATION STATION	1	20	20		
CLEAN STORE ROOM	1	60	60		
HOUSEKEEPING	1	10	10		
CONTRAST MEDIA STORAGE	0	10	0		
UNEXPOSED FILM	0	10	0		
RADIOLOGIST OFFICE	1	100	100		
CLERICAL WORK ROOM	1	80	80		
CONSULTATION	0	80	0		
PHYSICIAN VIEWING	0	80	0		
SUBTOTAL			2,622	1.35	3,540
DEPARTMENTAL TOTAL					**3,540**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
EMERGENCY DEPARTMENT					
ED TREATMENT/EXAM	2	120	240		
CARDIAC- PROCCECURE	1	260	260		
PATIENT TOILET	2	60	120		
SOILED WORK ROOM	1	80	80		
STRETCHER ALCOVE	1	20	20		
PUBLIC WAITING	1	300	300		
HOUSEKEEPING	1	20	20		
PUBLIC TOILET	2	48	96		
TEL / EDF	1	20	20		
CONTROL STATION	1	250	250		
CHARTING	2	20	40		
LOCKED MEDS.	1	30	30		
TRIAGE	1	100	100		
STAFF TOILET	2	48	96		
STAFF LOCKER / LOUNGE	1	220	220		
CLEAN STORAGE	1	80	80		
EQUIPMENT / WC STORAGE	1	60	60		
TRAUMA ROOM	0	250	0		
TWO STATION TRAUMA ROOM	0	500	0		
SCRUB FACILITIES	0	20	0		
"FAST TRACK CLINIC" EXAM ROOM	2	100	200		
SUBTOTAL			2,232	1.35	3,013
DEPARTMENTAL TOTAL					**3,013**
FAMILY MEDICINE CLINIC					
WAITING - RECEPTION	1	500	500		
EXAM ROOMS	8	100	800		
PROCEEDURE ROOM	1	180	180		
DRS OFFICES	4	120	480		
NURSING STATION	1	240	240		
PT TOILETS	2	48	96		
MED CLOSET	1	30	30		
STAFF TOILET	1	48	48		
SCHEDULING - WORKROOM	1	150	150		
STORAGE	1	60	60		
SUBTOTAL 2			,584	1.2	3,101
DEPARTMENTAL TOTAL					3,101

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
PHARMACY					
WORK AREA	1	200	200		
CART PARK	1	10	10		
NARCOTICS AREA	1	10	10		
BULK STORAGE / REFRIG. STORAGE	1	100	100		
FIRE CABINET	1	5	5		
SUPPLIES	1	20	20		
OFFICE / POISON CONTROL	1	100	100		
DISPENSING	1	60	60		
PICK-UP / RECEIVING	1	60	60		
COMPOUNDING	0	80	0		
PACKAGING	0	80	0		
COUNSELING	0	70	0		
IV PREP / STORAGE	1	80	80		
CLEAN ROOM	0	90	0		
STAFF LOCKERS / TLT/ LOUNGE	0	230	0		
SUBTOTAL			645	1.3	839
DEPARTMENTAL TOTAL					**839**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
MECHANICAL/ELECTRICAL/MAINTENANCE					
ENGINEERING / MAINTENANCE OFFICE	1	80	80		
MAINTENANCE SHOP	1	100	100		
MEDICAL EQUIPMENT REPAIR	0	150	0		
SUPPLY ROOM	1	80	80		
ELECTRICAL EQUIPMENT	1	300	300		
ELECTRICAL CLOSETS	2	60	120		
MECHANICAL EQUIPMENT	1	800	800		
SUBTOTAL			1,480	1.3	1,924
DEPARTMENTAL TOTAL					**1,924**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
RESPIRATORY THERAPY					
THERAPIST OFFICE / WORK AREA	1	80	80		
CLERICAL SPACE	0	80	0		
RECEIVING / DECONTAMINATION	1	40	40		
CLEAN SUPPLY STORAGE	1	100	100		
HOUSEKEEPING	1	10	10		
PATIENT WAITING / WHEELCHAIRS	1	40	40		
RECEPTION / CONTROL	0	70	0		
PATIENT TOILET		60	0		
CONSULTATION / EDUCATION		80	0		
TREATMENT AREA	2	80	160		
SUBTOTAL			430	1.2	516
DEPARTMENTAL TOTAL					**516**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
DIETARY					
FOOD PREP. AREA	1	300	300		
CONTROL / BREAK OUT / RECEIVING	1	80	80		
REF / FREEZER	1	60	60		
SOILED DISH WASH	1	80	80		
CLEAN DISHES	1	50	50		
DRY STORAGE	1	100	100		
CART SANITIZING / STORAGE	0	50	0		
WASTE HOLDING	1	10	10		
DIETICIAN OFFICE / DESK	1	80	80		
HOUSEKEEPING / CLEANING SUPPLIES	1	20	20		
LOCKERS / LOUNGE / TOILETS	1	120	120		
HOUSEKEEPING / CLEANING SUPPLIES	1	10	10		
POT WASH	1	20	20		
BAKING AREA	0	70	0		
TRAY ASSEMBLY	0	60	0		
ADDITIONAL STORAGE	0	100	0		
DRYING STORAGE	0	40	0		
VENDING AREA	1	20	20		
DINING AREA	30	15	450		
PHYSICIAN'S DINING / DICTATION	0	530	0		
SUBTOTAL			1,400	1.2	1,680
DEPARTMENTAL TOTAL					**1,680**

	UNITS	NET AREA / UNIT	NET G AREA SQ.FT.	GROSS FACTOR	ROSS SQUARE FEET
STAFF/DOCK RELATED/HOUSEKEEPING					
CENTRAL STORAGE	1	500	500		
RECEIVING	1	90	90		
HOUSEKEEPING OFFICE	1	80	80		
HOUSEKEEPING STORAGE	1	150	150		
BODY HOLDING	1	30	30		
BIOHAZARD HOLDING	1	60	60		
STAFF LOCKERS	2	60	120		
STAFF TOILETS	1	48	48		
COMMUNICATIONS- IT	1	300	300		
SUBTOTAL			1,378	1.3	1,791
DEPARTMENTAL TOTAL					**1,791**

Network Development Planning Grant Program Overview

"The Rural Health Network Development Planning Grant Program supports one year of planning to develop and operationalize formative health care networks in rural areas. Formative networks are not sufficiently evolved to apply for a 3-year Rural Health Network Development implementation grant and do not have a formalized structure. Applicants must propose to use the grant to develop a rural health network that brings together at least three separately owned health care providers. The applicant must demonstrate the need for the network and have identified one or more problems or issues that the network will address. The applicant must have identified potential network partners and include in the application a letter of commitment from each of the potential partners of the formative network.

These grants are designed to support development of collaborative relationships among health care organizations by funding rural health networks that focus on integrating clinical, information, administrative, and financial systems across members. A formative rural health network should identify the greatest needs of the participating providers and serve to benefit them by jointly solving problems or addressing needs that can't be adequately solved by working in isolation. The ultimate goal of the grant program is to strengthen the rural health care delivery system at the community, regional, and State level by improving the viability of the individual providers in the network. Grant funds typically are used to acquire staff, contract with technical experts, and purchase resources to 'build' the network.

Eligibility is open to rural public or rural non-profit private entities. The lead applicant organization applies on behalf of a formative network or consortium of rural health providers. The proposed rural health network or consortium supported by the grant must include three or more health care providers, which may be nonprofit or for-profit entities. Networks funded through this program may also include entities that support the delivery of health care services like social service agencies, faith-based organizations, charitable organizations, educational institutions, employers, local governmental agencies or other entities. At least three of the partners that plan to participate in the network, however, must be health service providers, i.e., primary care providers, hospitals, social service agencies, home health care providers, etc. Grant funds may not be used for the direct delivery of services."[3]

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[3] http://ruralhealth.hrsa.gov/funding/networkplanning.htm accessed February 2010.

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Appendix B: Financial Sensitivity Studies

The following table is a sample sensitivity analysis of some critical variables that determine net operating revenue for a Critical Access Hospital. The baseline assumptions used in these sensitivity analyses are different from those used in the final Stroudwater report:

- Utilization = 24% on average for inpatient services (34% used in final report)
- Size of loan = $35,504M ($29.9M used in final report)
- Interest rate = 7% (6% used in final report)

The analysis shows a net revenue range of $170,045 for best case and ($2,254,516) for worst case conditions.

Collection Rate Assumptions

	Worst	Baseline	Best
Medicare	40%	40%	40%
Medi-Cal	35%	40%	45%
Third Party	55%	60%	70%
County Indigent	20%	20%	25%
All Others	35%	40%	45%

Net Revenue

Population			
5,750	$ (2,354,516)	$ (2,124,264)	$ (1,733,218)
8,000	$ (1,588,757)	$ (1,268,924)	$ (725,766)
10,000	$ (908,026)	$ (508,474)	$ 170,045

Inpatient Payer Mix Assumption

	Worst	Baseline	Best
Medicare	72%	72%	72%
MediCal	17%	12%	5%
Other 3rd Party	7%	12%	20%
County Indigent	2%	2%	1%
All Other	2%	2%	2%

Net Revenue

Population			
5,750	$ (2,163,743)	$ (2,124,264)	$ (2,053,202)
8,000	$ (1,323,838)	$ (1,268,924)	$ (1,170,078)
10,000	$ (577,160)	$ (508,474)	$ (384,841)

Outpatient Payer Mix Assumption

	Worst	Baseline	Best
Medicare	55%	55%	55%
MediCal	20%	10%	5%
Other 3rd Party	20%	30%	35%
County Indigent	2%	2%	2%
All Other	3%	3%	3%

Net Revenue

Population			
5,750	$ (2,290,711)	$ (2,124,264)	$ (2,041,040)
8,000	$ (1,500,033)	$ (1,268,924)	$ (1,153,369)
10,000	$ (797,088)	$ (508,474)	$ (364,167)